

Sand Waste Yields \$100,000,000 In Cash From Nitrate Every Year

American Syndicate Controls Marvelously Rich Output of Nitrate Fields of Chile; Pays Half of Expenses of Republic.

ANTOFAGASTA, Chile, Sept. 12.—During the past two weeks 100 have been traveling through one of the richest lands of the world, a land that turns out more dollars than the valleys of the Nile, the Euphrates or the Ganges, and one whose workable area makes the \$200 an acre cornfields of Illinois look like 20 cents.

This land is as barren as the Sahara. It has not a plant, a tree, a blade of grass, nor any green thing. It is land where one often has to go 100 miles for a drink and one upon which the rains never fall. It is made up of rocks, stone and sand, and of salty particles that reflect the rays of the tropical sun inflaming the eyes. It is the great nitrate fields that run through the desert and up and down this west coast from below Antofagasta to the Peruvian boundary.

Great Sources of Wealth.
For a generation and more these nitrate fields have made Chile richer than any other South American country, and today they bring to its annual revenues an amount equal to \$40 for every family in the republic. Since 1888 the total revenue from nitrate export duties has been over \$400,000,000 in gold, and if the present rate of production continues during the next 25 years the amount will be three-quarters of a billion more. Today the nitrate fields are yielding from 80 to 85 per cent of all the government expenses, and, in addition, are yielding fortunes to those who exploit them.

Antofagasta is one of the chief nitrate ports. It is 2400 miles from the Panama canal, and it will soon have a procession of nitrate ships sailing northward to the United States and Europe. Today the vessels are still going around by the strait of Magellan, and the distance thus saved will be thousands of miles. The bulk of the nitrate exports are now controlled by an American syndicate known as the Nitrate Agencies, Limited. This company exports in the neighborhood of a billion pounds of nitrate a year and controls about one-fourth of the product. Its ships are always loading at the nitrate ports and starting out for the United States, Europe or far off Japan.

The syndicate has considerable British capital, but it is under American management and its methods are entirely American. The controlling influence and largest owners are W. R. Grace & Co., of New York and London, a firm that has its nitrate deposits and factories scattered throughout the desert from here to Peru.

Is a Marvelous Fertilizer.
But first let me tell you something about nitrate of soda. It is one of the richest fertilizers on earth and it has doubled the crop of many an American farm. It is used largely in Germany, where it is employed in raising sugar beets, and in the United States, which is now buying more than 1,000,000,000 pounds of it every year. We take about one-fifth of the product, and now that the canal is completed shall probably take more. Among the other large consumers in Europe are Great Britain, France, Holland and Belgium. It is largely used in the Hawaiian Islands and also in little Japan, the latter country now importing about 5,000,000 pounds every month.

Nitrate of soda when taken out of the ground and purified looks just like white salt. It is made up of small crystals or grains, and it is in this shape that it is shipped to the markets. It is put up in bags of 250 pounds each, and is carried from the ports out to the steamers in lighters.

The nitrate beds are found in a multitude of several thousand feet above the sea on the western slope of a range of low hills that run along the coast. They are from 20 to 100 miles back from the coast, and the belt in which they lie is seldom more than ten miles in width. It is therefore not hard to get the stuff to the seaboard and the most of the cost is in the haul.

Origin a Mystery.
As to whence these great fields of nitrate come, there are many different theories. One is that this part of Chile was once the bed of an inland

sea, and that the nitrate came from the decaying of the nitrogenous sea-weed. Another theory is that the ammonia which arose from the vast beds of guano in the islands of the west coast was carried by the winds to the mainland, where it condensed and united with the other chemicals of the soil to form the nitrate. A third theory is that the nitrate came from certain electrical discharges of the air as to make nitric acid, the acid being deposited in these beds in the form of nitrate of soda.

None of these theories is satisfactory, and yet the scientists have little better to offer. Dr. Walter S. Tower, of the Chilean government, says they have come from a great lagoon which was formed in this region by the rising of the sea. At that time it formed the home of a world of bird life. The lagoon was shallow and the birds waded through it and fed on the seaweed. Their droppings formed guano, and as evaporation went on this combined with other chemicals to form the nitrate. At any rate the nitrate has been produced by the sea, and it is believed that it will continue to be produced as long as the sea exists.

Land Flooded by the Sea.
Where the mining is done the land looks as though it had been plowed up by giants. The earth lies in mammoth clods of all shapes and sizes, and there is no sign of vegetation nor life of any kind. The soil is black and bare, and in some places yellow, gray, lemon colored or green. The addition of the nitrate to the soil makes it fertile, and the method of getting it out is to bore a hole in the ground and blow it out with blasting powder.

Antofagasta is made on the spot, and that out of nitrate similar to that which it is to blow up. The only thing required is a hole in the ground through which the explosion breaks up the earth for a radius of 40 feet around the hole. The charges are put in in rows so that the mining can be done in trenches. After the rock has been broken up it is broken up into lumps of such size that they can be loaded upon the trucks and taken to the factories where it is further reduced by machinery made for the purpose.

The Reduction Plants.
There have been but few changes in the methods of nitrate reduction since it vitified this region, more than 15 years ago. There are many more refineries, as the nitrate factories are called, and the output has been quadrupled; but the methods of working are just about the same. The average refinery is a collection of buildings, some of which are of stone and some of iron. It has thousands of dollars' worth of costly machinery, crushers like those of a smelter that break the rock to pieces, the nitrate rock and beyond are nothing but a mass of machinery. It is a further reduced by machinery made for the purpose.

Enough to Last World for 50 Years.
In my talks with the nitrate experts of Chile I have learned much as to the present extent of the fields and their future. The Antofagasta manager of the Nitrate Agencies, Limited, estimates that there is enough salt to last the world for 50 years more at the present rate of consumption, and there are others who say that the nitrate fields will last for more than that. There are three provinces whose deposits are estimated at more than 100,000,000,000 pounds. Others of the nitrate fields are lower, but there are more left only about 20,000,000,000 pounds. These estimates do not take into account the new fields which are sure to be found nor the possibilities of working over the dumps about the refineries, which still contain a large percentage of nitrate.

Indeed, one of the great opportunities for the inventors of the future lies rich here in these arid deserts of Chile. The calcium as it is brought from the mines seldom exceeds more than 25 percent of nitrate of soda, and by the present methods of reduction only 1 percent is left of the refuse. That means that 40 percent of the nitrate contents are still in these great dumps surrounding the refineries, and that if this can be saved it will add to the world's supply of nitrate. A product worth hundreds of millions of dollars.

The fields have been mined since 1828, and in 1859, at the time of the Peruvian

war they were already taking out millions of pounds every year. In 1902 the output was more than 1,000,000 tons, and in 1911 the output was more than 2,000,000 tons. The value of the output was something like \$100,000,000. This work has been going on steadily at the present rate for more than a generation, and in a few degrees for a generation and more before this time only 40 percent of the product has been saved. The other 60 percent still lies in the dumps, and in this rainless country there it will continue to be called the "open sea" of some inventors' brains unless the rubber case of nitrate and thus enrich himself and the world.

Water is Piped to the Works.
The water for the nitrate works comes in pipes for a long distance over the desert, and all kinds of food must be imported. Every company has its own stores, and they pay the wages of the laborers in money. Each man is the size of a poker ship. It has its value marked on it, and it is used at the company stores. It represents so much money, and the workers can cash it at any time. The stores are run at a profit, and the prices are high. Flour brings more than \$4 a hundred, eggs 15 cents apiece, all such about 25 a bushel. Coal oil costs about 20 cents a gallon and coal for cooking is sold at 10 cents a ton. The most of it comes from southern Chile, although some is shipped in from England. The larger officials have schools for their men and there are hospitals and physicians accessible.

Supports Many Coast Towns.
The nitrate business supports a number of towns along the coast. It is the backbone of Iquique, the foundation of Antofagasta and it also feeds the towns of Pisagua, Chacabuco and Tocopilla, which are towns of less size. Iquique depends entirely on nitrate. Next to Valparaiso and Antofagasta it is the most thriving export of the country. It lies on the edge of the sea, under the rugged hills. For a hundred miles back of it and around there is nothing but desert. The country has no other kind of crop except that fed by the fresh water brought to Iquique in pipes, and the whole supply of the city is from the lake which is more than 15 miles in length. Nevertheless the city has a good supply of fruit. It has its newspapers, a theater, moving picture shows and a good school. Although it produces nothing but nitrate of soda, and everything else must come from other people live almost as well as those of any other South American city.

Pay Exceeds Dividends.
Most of the nitrate works are owned by stock companies, and nearly all of them are paying big dividends. Some have doubled and trebled in value since they were organized. Take the Aguirre Santa, whose capital was \$1,000,000. When it was organized it was \$1,000,000. When it was paid for it was \$1,000,000. It has since then it has paid for 34 times that amount. Some of the biggest officials have paid for themselves in three years and some have given stock dividends of 100 and 200 percent.

A few have given stock dividends of 100 and 200 percent. All of the nitrate fields originally belonged to the government, and they have been sold out at auction to the highest bidder. The government was taking its share of the exports through the duty which it charges upon every bag shipped. The companies have been so great that they have had to extricate themselves on the part of the officials, and there are now men in Chile who claim that it is bankrupting the country. They say they would be far better off if they had had to pay taxes like other countries. Instead of having these nitrate mines that supply from two-thirds to four-fifths of their public needs.

Music Halls in Paris Feature Patriotic Songs

Paris, France, Sept. 12.—Last night one "safe concert" and a music hall opened in Paris, the first in three weeks. Not half the seats were occupied. The small audience was quiet. The Frenchmen, their mothers, whose hearts were in the north, a few Americans, Italians and Englishmen, all joined in the singing. Many women cried freely and unashamedly. A few singers, dressed modestly, sang patriotic airs. A soprano gracefully recited a poem of the glories of France. There was not a rousing or suggestive dress or motion, not a coarse jest. Le Figaro, which has been so full of criticism of the glories of France, approved this morning. It is the time for the music halls to be made over. Let them bring out all the old French songs, the songs of glory and victory. We must sing them today. Why not in all our music halls?

Hook's Wit His Best Asset

Famous Englishman Remained a Bachelor After His First Love Disappointment.

By Maudslaw C. DeVere

EDWARD Hook has, by common consent, been placed at the head of the 18th century wits; he was a punster, mimic and loved nothing as well as a practical joke. When hungry he would put his wits together and evolve a plan which would get him an invitation to an excellent dinner. At a very early age he wrote a comic opera, to which his father, who was a music teacher, supplied the music. This followed by plays of all varieties, though in later years, Hook never wrote for the stage and it is as a wit that he will be longest remembered. Coleridge, the famous poet, once said of him, "I have before in my time met with men of admirable promptitude of intellect, power and play of wit, but I never could have conceived such readiness of mind and resources of genius to be poured out on the mere subject and insubstantial of the moment."

Classmate of Byron.
Hook was born in 1778, the same year as Byron, and later at Harrow he had the future poet as a classmate, though they were never great friends. It was soon after leaving Oxford that Hook had his first serious affair of the heart. He was a guest of Col. Woodhouse and one of the other guests was a beautiful girl who had just returned to England. Her stepfather having been an officer commissioned to colonial duty. We only know her first name, "Meriel," and "Fair Meriel," as Hook was wont to call her.

They were most congenial friends which soon caused them to become intimate lovers. They kept their engagement secret for a few days, and then confided it to the young woman's mother, who would not under any consideration hear of the fair Meriel's throwing herself away on a young man with no prospects and no proof that she was a most faithful woman, for Hook was far too temperamental to make a good husband.

The lovers were plunged in the depths of despair at the termination of their short lived romance, but they soon forgot it. Hook fell in love many times, but there is no record of his having been engaged more than this once.

Is Short in His Accounts.
In 1812 Hook was appointed treasurer of the island of Mauritius, with a salary of 2000 pounds a year. There he fared gloriously until 1818, when a grave deficiency was detected in the public chest. He accounted a clerk of the defalcation, but was immediately arrested and sent back to England. Even in the face of disgrace he could not resist a joke. At St. Helena he met an old friend going out to the Cape, who, surprised at seeing him on his return, enquired after a residence of five years, said: "I hope you are not going home for your health." "Why, I am sorry to say that they think there is something wrong in the chest," was Hook's reply.

Upon his arrival in England, though continued proceedings were stopped, in 1822 he was pronounced a crown debtor for 12,000 pounds, and was again arrested. In 1825 he was released from the King's bench, but not from the debt. However, he made no effort to discharge it.

Involved in Another Affair.
While society was condemning Hook for an offense of which he may have been innocent, it freely forgave a far greater sin, a sin which caused Hook more qualms of conscience than his public disgrace. Soon after his return from Mauritius, while he was in the unfashionable neighborhood of Somers Town, here he sought solace in the companionship of a young girl, who although of a station far below his was nevertheless a good innocent young woman, who loved and trusted him. He lived with her for some time, and she should have married the girl but he could not bear to give his name to a girl who he felt to be so far beneath him.

Starts the "John Bull."
In 1820 he started the famous "John Bull," which was not a political or the highest order, according to a writer of the time. "Scarcely, scandal, libel, cases of all kinds for the day, with which it blazed, and the wit, bitter and unflinching, unsparring, which puffed the flame up, was its chief recommendation." In his later years Hook took to the two dissipated which could most divert him of his miseries—drinking and drinking. He lost heavily and died penniless.

He died in 1841, the woman who plays such an important part in his life is not known by name, for he sought to keep her out of sight as much as possible.

Everything Suggestive of Allies Is Strictly Under Ban in Berlin

Berlin, Germany, Sept. 12.—One of the accompaniments of the European war which would, under less serious conditions, be a fair subject for amused comment is the sudden rage that has manifested itself against everything English, French and Russian. This feeling has reached such a pitch that French and English pictures have been withdrawn from public view at the Berlin museums. In the Kaiser Friedrich museum, pictures of French and English monarchs, as well as portraits of French and English statesmen, have been withdrawn.

On the day following the declaration of war by Great Britain, groups paraded the main streets and made demonstrations before the shops with offending signs. Many American firms which advertised branches in Paris and London suffered. At the corner of Leipziger and Friedrich streets stands the Equitable life insurance company's building. Its first two floors sheltered the Equitable cafe, but this became the "Zeits Café" on August 1. The Berlin Messenger Box company, whose English name had long given offense to sturdy patriots, is now the "Berliner Boten-Kasse" (Godschalk) and the messengers have been equipped with new headgear to replace the tiny Tommy Atkins which the firm formerly wore on the side of their head.

The movement is being carried to such a ridiculous lengths that prominent newspapers are declaring the Germans should stop saying "adieu" upon parting, a salutation that has been in use since the 15th century.

Italians by Thousands, Destitute and Hungry, Driven Back to Italy

Lausanne, Switzerland, Sept. 12.—The suffering of Italians forced to leave Germany, France and Austria on account of the war is enormous. A week's time is being lost in the transit of these poor, pitiful refugees were forced back into their own country through St. Gothard Pass and by the Simplon Pass went 70,000 men.

They were mostly laborers who came north all along the Swiss frontier. A concentration camp was set up near Basel in the open fields. For two days and nights thousands huddled together without shelter. There was a powerful rain and lightning in the night, and the terrible cold. In that night, nine died and five were born.

It was nobody's fault. The poor returning emigrants are unanimous in praise of the railway employees who helped them to leave France, where the nation's struggle for existence no longer allowed them to remain. Those who could not find work in cities like Paris and Marseilles stayed on, and the place of French laborers summoned away to war. But thousands have had to flee, and it has been no easy task for the Swiss consuls to manage this sudden exodus.

Filmy Gowns On Clever Lines

Examples of French Art in Dressmaking Which Will Be Equaled by American Designers Now That Necessity Demands It.



THE ruffled-bodice, the blouse and the sailor, was much worn this season. This one is of white embroidered net over a pretty little frock of same material, the blouse being gathered by a wash of Roman striped silk, blue and white, the skirt slightly draped very low at back over a high flounce of embroidered net.

THIS French model gown of Nile green and silver brocade satin shows the value of cleverness of cut. The skirt, circular in front and back, is draped on the move. The pinner falls across the rest of the skirt in a series of ripples. From under this short overskirt falls a petticoat of full silk point d'esprit.

Work of the Most Famous of All Poetesses Found

Two Papyrus Rolls Dug Up at Oxyrhynchus, Egypt, Containing Many of the Lost Odes of Sappho, Who Was Ranked by Her Contemporaries With the Goddesses of Poetry and Song.



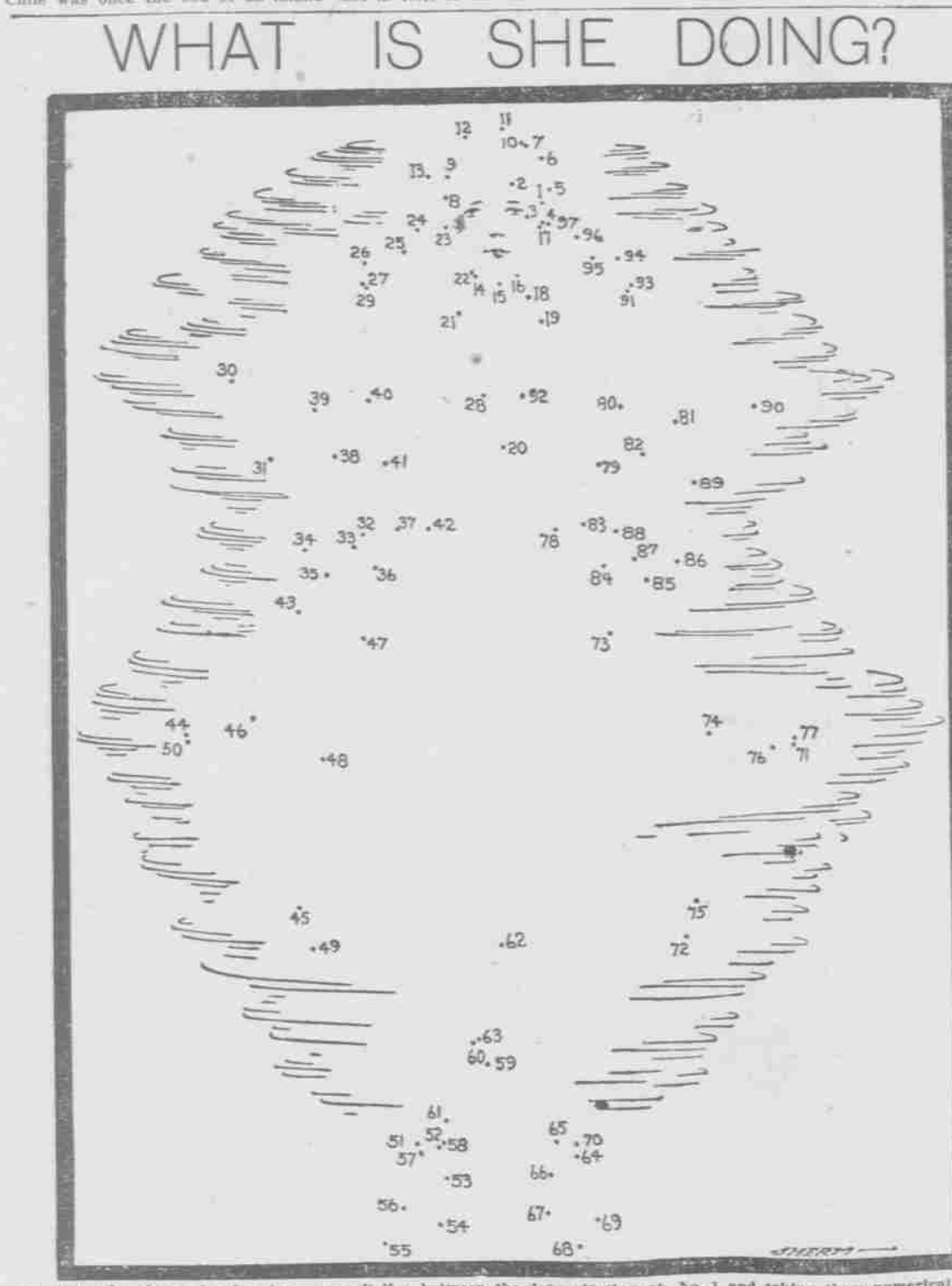
Work by Sappho, the famous Greek lyric poetess, who flourished about the seventh century B. C.; three of the 56 pieces surviving from the roll which contained Book I, of the odes, dug up at Oxyrhynchus.

By GARRETT P. SERVISS.

A REMARKABLE discovery has recently been made by the directors of the Egypt exploration fund at Oxyrhynchus. It is a papyrus roll containing, in Greek written characters, the fragments of the lost odes of the famous Alexandrian poetess, Sappho, who lived in the seventh century B. C. and who has, for centuries of years, been regarded as the greatest of Greek lyric poets. The fragments of her poetry that have come down to us, as the matches queen of love song.

The ancient authors all praise her without stint, and called her the "Tenth Muse," the other nine muses were goddesses. According to an ancient tradition, she threw herself into the sea from the rocky Lesbian promontory because of a disappointment in love. Some of the greatest modern poets have tried, with not much success, to reproduce the effects of the fragments of her verses that have survived. Scholars have always lamented the loss of almost everything that she wrote. The destruction of the famous Alexandrian library in the fourth century, A. D., was probably one of the principal causes which led to the virtual disappearance from the world of Sappho's wonderful poetry.

For that reason it is all the more interesting that the new discovery was made in Egypt. The verses were evidently copied by an Alexandrian Greek about the time of the great astronomer Ptolemy. In the heap of ruins of some ancient library in which they were found were also discovered two papyrus rolls containing poems by Alcaeus, who was contemporary with Sappho. The two rolls containing verses by Sappho are badly battered, but enough of their contents can be made out to show that one of them, when in a perfect condition, included the whole first book of her odes.



Complete the picture by drawing a pencil line between the dots, starting at No. 1 and taking them numerically.